

L 32936-66

ACC NR: AP6019931

2

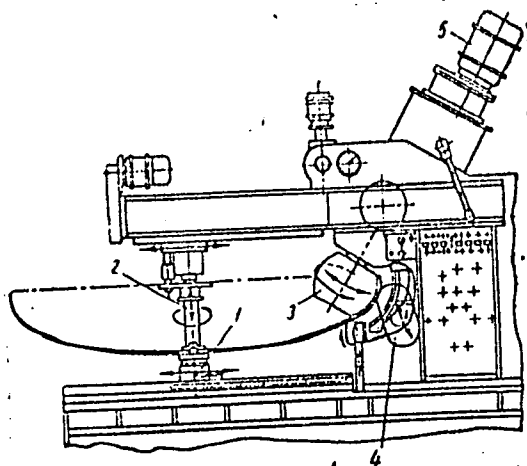


Fig. 1. Spinning machine

14

building standard MN 72-62. Inaccuracy as a result of radial displacement of the shaped roller, according to MN 72-62, amounted to 66, 40, and 33.2% for closures 1400—1600, 1800—2400, and 2600—3400 mm in diameter, respectively. With simultaneous action forces on the spinning roller and blank clamping, the axial displacement increased by 0.05 mm and the radial displacement increased less than 10%. A nomogram

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for determining the inaccuracy of the closure inside diameter, depending on blank thickness, working pressure, and rigidity of machine and tool, is plotted. Orig. art. has: 4 figures. [AZ]

SUB CODE: 13/ SUBM DATE: none/ ATD PRESS: 5128

Filament-wound structures ²⁶

Card

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L 44358-66 EWT(m)/EWP(k)/T/EWP(w)/EWP(t)/ETI IJP(c) JD/HW
 ACC NR: AP6013481 (N) SOURCE CODE: UR/0182/65/000/012/0018/0019

AUTHOR: Zalesskiy, V. I.; Kozlov, Yu. I.; Lin, S. T.

ORG: none

TITLE: Study of the deformation of brass bottoms during cold burnishing

SOURCE: Kuznechno-shtampovochnoye proizvodstvo, no. 12, 1965, 18-19

TOPIC TAGS: brass, shell deformation, strain, surface finishing, compressive stress /
 / L-62 brass

ABSTRACT: The cold burnishing of large-diameter bottoms for the boilermaking, petroleum, chemical and oxygen equipment industry, is a relatively uninvestigated manufacturing process. In this connection, the authors discuss the cold roller burnishing of bottoms measuring 1300-4000 mm in diameter and up to 25 mm in thickness, as performed by a machine of the type illustrated in Fig. 1. Machines of this kind also flange the edges of the bottom, which is spherically shaped by prior stamping in a hydraulic press. The quality of the bottoms thus produced is greatly affected by strain produced by stress in the course of their forming. Accordingly the authors investigated the stress-strain relationships by plotting a coordinate grid in the

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UDC: 539.371

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Fig. 1. Machine for cold burnishing of bottoms measuring 1300-4000 mm in diameter and up to 25 mm in thickness

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L 46302-6

ACC NR: AP6013481

form of circles with the diameter of 20 mm on a flat blank of L-62 brass with original diameter of 1800 mm and thickness of 5 mm, used to fabricate a bottom with a diameter of 1500 mm. Following the stamping and burnishing of the bottom the plotted circles were found to have an elliptical shape. The permissible strain rate was calculated by the method described by A. D. Tomlenov (Mekhanika protsessov obrabotki metallov davleniyem, Mashgiz, 1963). These calculations show that stretching with compression ($-1 < m_2 < 0$) occurs in the region pertaining to the cylindrical part of the bottom, while nonuniform stretching ($1 > m_2 > 0$) takes place in the region corresponding to the radius of transition from the cylindrical to the spherical part. There is no ironing in the region where stretching with compression occurs. In this case the occurrence of compressive stresses produces folds which must be eliminated and smoothed out by annealing and extra burnishing. The most dangerous area where fracture of the metal may occur is the region located closer to the end of the cylindrical part of the bottom and corresponding to the radius of transition from the cylindrical to the spherical part. Orig. art. has: 3 figures, 1 table.

SUB CODE: 13, 11/ SUBM DATE: none/ ORIG REF: 001/

3/3

L 36188-66 EWT(m)/EWP(j) RM/WW

ACC NR: AP6010748

SOURCE CODE: UR/0076/56/040/003/0700/0703

AUTHOR: Kozlov, Yu. I.; Shigorin, D. N.; Ozerova, G. A.

ORG: Physicochemical Institute im. L. Ya Karpov (Fiziko-khimicheskiy institut)

TITLE: Sensitized photodecomposition of triphenylmethane compounds in the solid phase. Part 1: Photosensitization with aromatic amines

SOURCE: Zhurnal fizicheskoy khimii, v. 40, no. 3, 1966, 700-703

TOPIC TAGS: triphenylmethane, photosensitivity, free radical, amino

ABSTRACT: The photodecomposition of triphenylmethane compounds, sensitized with aromatic amines, was studied on binary mixtures of triphenylmethane and triphenylmethylcarbinol with triphenylamine, diethylaniline, leuco base of crystal violet, azobenzene, and acridine. Dilute solutions of these mixtures in heptane, isopentane, and ethanol were then frozen at 10^{-3} mm Hg and 77°K and irradiated with the 313 and 334 mμ mercury lines, corresponding to the long-wave absorption bands of the amines. The absorption and luminescence spectra and the ESR spectra of the radicals of the matrix were recorded. The addition of aromatic amines was thus found to initiate the formation of triphenylmethyl radicals. Ethanol inhibits the formation of $\text{Ph}_3\text{C}^\cdot$ radicals in the triphenylamine-triphenylmethane mixture as a result of a screening of the amine, which forms associates with the alcohol molecules. Sensitizers of the

UDC: 541.14

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L 36188-66

ACC NR: AP6010748

formation of $\text{Ph}_3\text{C}^\bullet$ radicals are aromatic amines in the excited state, which detach hydrogen from the $\rightarrow \text{C-H}$ group of triphenylmethane compounds. Under the experimental conditions studied, naphthalene and acridine do not sensitize the photodecomposition of triphenylmethane compounds. Orig. art. has: 3 figures.

SUB CODE: 07/ SUBM DATE: 27Mar65/ ORIG REF: 013/ OTH REF: 006

Card 2/2 in LP

L 46662-66 EWP(e)/EWT(m)/I/EWP(t)/ETI/EWP(k) IJP(c) JD/WW/JG/JH

ACC NR: AP6009571 (N)

SOURCE CODE: UR/0226/65/000/011/0019/0025

AUTHOR: Savitskiy, K. V.; Itin, V. I.; Kozlov, Yu. I.; Savitskiy, A. P. 49 B

ORG: Siberian Physico-Technical Institute im. V. D. Kuznetsov (Sibirskiy fiziko-tekhni-cheskiy institut im. V. D. Kuznetsova)

TITLE: Effect of the dispersion of aluminum powder on the sintering of Cu-Al alloy in the presence of liquid phase 17 16 17

SOURCE: Poroshkovaya metallurgiya, no. 11, 1965, 19-25

TOPIC TAGS: powder metal sintering, aluminum, copper, powder alloy, particle size

ABSTRACT: The sintering of pressed shapes whose components can form eutectic alloys may, owing to contact pressure, involve formation of the liquid phase at temperatures markedly below the melting point of the readily fusible component. The formation of the liquid phase in Cu-Al alloys triggers two opposite processes: shrinkage or enlargement of the pressed briquet, either one of which prevails depending on pressing and sintering conditions, as well as on the particle size of aluminum powder. To further clarify these conditions, the authors investigated a powder-metal alloy of Cu with 10 at. % Al. The samples investigated contained Al powder in

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ACC NR: AP6009571

different particle sizes: $<50\ \mu$, $63-100\ \mu$, $100-160\ \mu$, $250-315\ \mu$, and $400-630\ \mu$, mixed with Cu powder (particle size $<50\ \mu$). These mixtures were pressed into cylindrical briquets which were then vacuum-sintered. After sintering the linear and volumetric shrinkage of the briquets was determined. Findings: samples sintered at above-eutectic temperatures ($>548^\circ\text{C}$) undergo enlargement in volume; the extent of this enlargement is the greater the finer the particle size of Al is and the slower the rate at which the samples are heated to the temperature of isothermal exposure. The formation of the liquid phase, as established by radiographic and metallographic analyses, is the major factor in this process: the growth in the size of the sintered briquets is chiefly associated with the formation of an alloy of copper and aluminum owing to the preferential diffusion of Al atoms from the liquid to the solid phase. If the diffusion is not complete, the briquets may undergo shrinkage instead of expansion in volume. Smaller Al particles are more advantageous, since then the area of contact between Cu and Al particles in the briquets is greater and this contributes to a more complete diffusion from the liquid to the solid phase. Orig. art. has: 6 figures.

SUB CODE: 11, 20, 13/ SUBM DATE: 13Feb65/ ORIG REF: 007/ OTH REF: 003

Card

2/2 *egh*

ACC NR: AF6028097 SOURCE CODE: UR/0314/66/000/006/0037/0038

AUTHOR: Zalesskiy, V. I. (Doctor of technical sciences); Kozlov, Yu. I. (Candidate of technical sciences); Lin, S. T. (Engineer)

ORG: none

TITLE: Analysis of the technological and economic indices of the process of fabricating thin walled bottoms by pressing with subsequent rolling

SOURCE: Khimicheskoye i neftyanoye mashinostroyeniye, no. 6, 1966, 37-38

TOPIC TAGS: cost estimate, metal rolling, metal pressing

ABSTRACT: The introduction of pressing with subsequent rolling has permitted fabrication of bottoms from carbon and stainless steels, brass and aluminum alloys, with a ratio $D_b/s = 350$ (here, D_b is the diameter of the billet, s is the thickness of the bottom). A previous method of pressing and drawing achieved a ratio D_b/s of only 230, and presented difficulties due to a loss of strength of the billet. A table shows a comparison of the economic factors in the fabrication of bottoms by the two methods; the bottoms in both cases had a diameter of 1800 mm and a thickness of 16 mm, and were made of Steel 3. The comparison shows a cost ratio of 100:140 in favor of the method of pressing with subsequent rolling. Equipment of this type makes it possible to fabricate bottoms of any desired type, except elliptical, with diameters

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UDC: 621.983.3.003.12

L 06086-67

ACC NR: AP6028097

from 500 to 4000 mm, and a thickness from 4 to 30 mm. Orig. art. has: 1 figure and 2 tables.

SUB CODE: 11/ SUBM DATE: none

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05/

Card 2/2 JS

1. 08945-67 EWT(m)/EWP(w)/EWP(t)/ETI IJP(c) JD

ACC NR: AP6028390

SOURCE CODE: UR/0182/66/000/006/0015/0019

AUTHOR: Zaleskiy, V. I.; Kozlov, Yu. I.; Tsikunova, M. S.

17

ORG: none

TITLE: Experimental simulation of the closing of defects during hot upsetting and drawing of low-plasticity steel

SOURCE: Kuznechno-shtampovoye proizvodstvo, no. 6, 1966, 15-19

TOPIC TAGS: hot upsetting, metal drawing, metallurgic research, metallurgic process

ABSTRACT: These experiments were performed with specimens of low-plasticity steel having a high content of Cr (~22%), whose ingots display such characteristic defects as various transverse and longitudinal casting and shrinkage cracks. The problem was to determine the forging conditions in which these internal ingot defects could be more or less closed up. To this end, the pattern of distribution of deformations during upsetting was simulated by using composite models -- specimens of the investigated steel (Fig. 1) represented by a pressed-in set of solid washers alternating with perforated washers (single axial perforation). The artificial "defects," (holes in the washers) like defects of shrinkage origin, were disposed along the axis of the

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UDC: 621.73.042

L 08945-67

ACC NR: AP6028390

blank. These composite models with "defects" were then upset in a 200-ton hydraulic press at 1000 and 1150°C, with degree of deformation ϵ amounting to 30 and 50 as well as 50 and 70%,

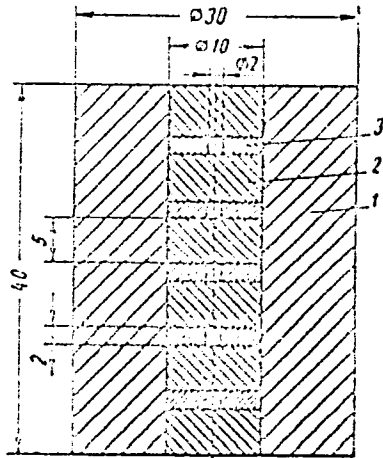


Fig. 1. Specimen with artificial defects:

1 - die; 2 - solid washer; 3 - washer with "defect"

respectively, on using various shapes of upsetting punches. It was thus found that upsetting to $\epsilon = 50$ and 70%, at 1150°C, with punches of various shapes, produces the best results in closing the "defects" (i. e. reducing to zero the height of the "defects") and that preliminary upsetting with a concave spherical punch is

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I. 08945-67

ACC NR: AP6028290

highly adverse, since it causes the metal to initially flow into the spherical cavity of the punch, thus increasing the height of the defects. This was followed by studies of the effect of drawing on the closing of defects, performed on specimens measuring 40x250 mm in diameter, in which artificial "defects" were produced by drilling apertures of 2 mm in diameter in the axial, transverse-horizontal and transverse-vertical directions (Fig. 2), simulating internal discontinuities in the metal. The drawing was performed in a 200-ton hydraulic press,

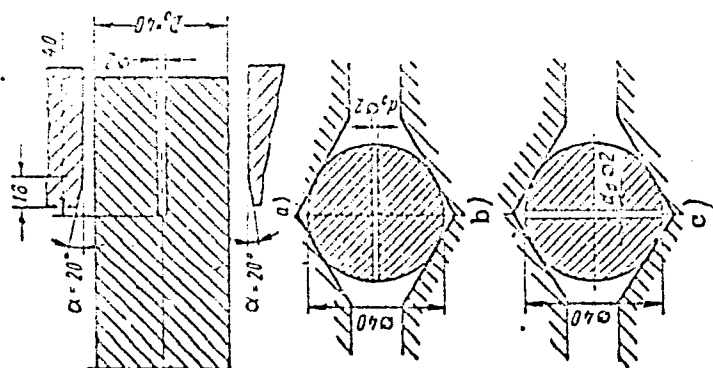


Fig. 2. Location of axial and diametral channels ("defects") during deformation:
a - axial; b - diametral horizontal;
c - diametral vertical

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L 08945-67.

ACC NR: AP6028390

with $\epsilon = 10, 15, 20$ and 30% . It is thus found that axial defects most fully closed when $\epsilon = 30$ for a single reduction in area and transverse defects, when $\epsilon = 20\%$. The transverse defects running in the direction of action of the deforming force failed to close completely and instead merely curved in the direction of flow of the metal. Orig. art. has: 7 figures, 1 table.

SUB CODE: 13, 11/ SUBM DATE: none/ ORIG REF: 003

L 47376-66 E (m)/T/EWP(t)/ETI/EWP(k) IJP(c) JD/HW/DJ

ACC NR: AP602902

SOURCE CODE: UR/0413/66/000/014/0033/0033

INVENTOR: Zaleskiy, V. I. ; Kozlov, Yu. I.

ORG: none

TITLE: Lubricant for steel ingots. Class 18, No. 183784

SOURCE: Izobret prom obraz tov zn, no. 14, 1966, 33

TOPIC TAGS: lubricant, steel ingot, binder

ABSTRACT: An Author Certificate has been issued for a lubricant for steel ingots. The lubricant is based on glass powder, a binder, and water. The use of caustic sulfite cellulose as the binder improves the quality of the hot working of steel. [Translation] [NT]

SUB CODE: 11/ SUBM DATE: 24Jun63/

Card 1/1 mjs

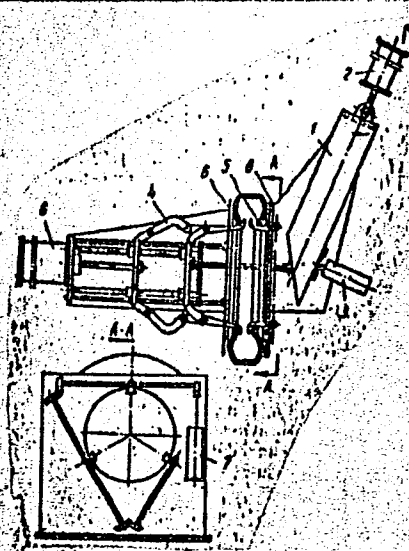
UDC: 621.892:669.15-194.3:66.046

L 27251-66 EWP(j)/EWP(k)/EWT(d)/EWT(m)/EWP(h)/I/EWP(l)/EWP(v) IJP(c) RM
 ACC NR: AP6009868 (A) SOURCE CODE: UR/0413/66/000/004/0067/0067
 AUTHORS: Kozlov, Yu. K.; Konovalov, Ye. K.; Shkarupa, A. V.; Yakimenko, N. G. 27/B
 ORG: none
 TITLE: Device for assembly of automobile tires. Class 39, No. 178975 /announced
 by Omsk Tire Factory (Omskiy shinnyy zavod)
 SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 4, 1966, 67
 TOPIC TAGS: tire, automotive industry
 ABSTRACT: This Author Certificate presents a device for assembly of automobile tires, consisting of an assembly table and tire rim stretching mechanism. To increase the automation of the assembly, the latter is equipped with a device for removal and introduction of tubes, a mechanism for removal of the assembled tire, and a tire rim stretching mechanism equipped with a compressed air connection. The stretching mechanism is fastened to the assembly table on a movable vertical wall (see Fig. 1).
 Card 1/2 UDC: 678.05:629.11.012.555

I 27251-66

ACC NR: AP6009868

Fig. 1. 1 - directing channels; 2 - chamber piston; 3 - piston follower; 4 and 5 - levers; 6 and 7 - pneumatic connections for levers; 8 - vertical movable wall.



Orig. art. has: 1 figure.

SUB CODE: 13/ SUBM DATE: 19Nov64

Card 2/2 *cc*

KOZLOV, Yu.K., kand. ekonomicheskikh nauk

"Technical and economic bases for the standardization and universalization of attachments" by A.V.Proskuriakov. Reviewed by IU.K.Kozlov. Vest.mash. 40 no.3:84-85 Mr '60.

(MIRA 13:6)

(Machine tools¹-Attachments) (Standardization)

(Proskuriakov, A.V.)

KORNEYEV, A.M., doktor ekon. nauk; VILETSKIY, M.A., doktor ekon. nauk; SHOKIN, N.A., kand. ekon. nauk; LIVECHTS, N.S., doktor ekon. nauk; KOZLOV, Yu.K., kand. ekon. nauk; VARANKIN, V.V., kand. ekon. nauk; ROZENFEL'D, Sh.L., doktor ekon. nauk; OFATSKIY, L.V., doktor ekon. nauk; RAKOVETSKAYA, V.S., red.; GULYAYEVA, A.N., red.

[Industry in the administrative complex of the economic regions of the U.S.S.R.] Promyshlennost' v khosialstvennom komplekse ekonomicheskikh raionov SSSR. Moskva, Nauka, 1961. 566 p. (MIRA 18:1)

1. Akademiya nauk SSSR. Institut ekonomiki.

KOZLOV, Yu.M.

"Artificial kidney" apparatus. Med.prom. 16 no.6:48-52 J1 '62.
(MIRA 15:12)

1. Nauchno-issledovatel'skiy institut eksperimental'noy
khirurgicheskoy apparatury i instrumentov.
(ARTIFICIAL KIDNEY)

KULAKOV, G.P.; MENDEL'SON, M.M.; SIMOVSKIY, R.S.; GORBOVITSKIY, Ye.B.
KOZLOV, Yu.M.

Use of the artificial kidney in acute renal insufficiency
following abortion. Akush. i gin. 39 no.3:9-15-MY-Je'63
(MIRA 17:2)

1. Iz kafedry urologii (zav. - zasluzhennyy deyatel' nauki
prof. A.P. Frumkin [deceased]) Tsentral'nogo instituta usover-
shenstvovaniya vrachey Bol'nitsy imeni S.P. Botkina (glavnyy
vrach - dotsent Yu.G. Antonov) i Nauchno-issledovatel'skogo
instituta eksperimental'noy khirurgicheskoy apparatury i in-
strumentov (direktor M.G. Anan'yev).

ACCESSION NR: AP4044831

S/0280/64/000/004/0119/0125

AUTHOR: Kozlov, Yu. M. (Leningrad)

TITLE: Evaluation of the response speed of a self-adjusting system operating near the stability limit

SOURCE: AN SSSR. Izvestiya. Tekhnicheskaya kibernetika, no. 4, 1964, 119-125

TOPIC TAGS: automation, control system, self adjusting system, control system response speed, stability limit, control system transient

ABSTRACT: The author considers the possibility of applying the methods of Popov and Pal'tov to the evaluation of the time of a transient in a self-regulating system with an oscillatory stability limit. A simple control system is considered, designed to maintain maximum amplifier gain without loss of stability. The response of the self-adjusting circuit is chosen so as to compensate for effects due to noise, etc. An improved system is then treated in detail, including a supplementary adjusting channel for increasing amplification only when there is a predetermined level of low-frequency components in the signal fed to the self-adjusting circuit. The set of differential equations involves an even, symmetrical, nonlinear function and can be solved straightforwardly when the

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operators are explicit functions of the variables. Otherwise, the complicated, non-linear differential equations may be approximately linearized only by separating out the zeroth harmonic, the system thereby being notably simplified, if only first order Fourier components are retained. The damping coefficient and other parameters are then obtained for the cases of linear and square-law detectors and two examples are worked in detail. It is shown that damping time and fluctuations about the stability limit can be adequately evaluated by this method, as well as the effect of various parameters of the high-speed system. Orig. art. has: 2 tables, 4 figures and 22 equations.

ASSOCIATION: none

SUBMITTED: 06Jun63

NO REF SOV: 003

ENCL: 00

OTHER: 001

SUB CODE: IE

Card 2/2

KUZIOV, Yuriy Markovich; MOROZOV, Nikolay Gavrilovich; K. VIKOVA,
K.I., 204.

[Administration of the national economy of the U.S.S.R.]
Upravlenie narodnym khozlistvom SSSR. Moskva, Izd-vo
"Znanie," 1964. 78 p. (Narodnyi universitet kul'tury;
Fakul'tet prevoykh znaniy, no.8) (MR: 17:12)

SOV/24-59-2-10/30

AUTHOR: Kozlov, Yu. M. (Leningrad)

TITLE: Calculation of Servos with Self-Adjusting Parameters (O raschete sledyashchikh sistem s samoreguliruyushchimisya parametrami)

PERIODICAL: Izvestiya Akademii nauk SSSR, Otdeleniye tekhnicheskikh nauk, Energetika i avtomatika, 1959, Nr 2, pp 65-70 (USSR)

ABSTRACT: The paper is closely related to the one immediately preceding; the problem is simplified radically by assuming that only one parameter is adjustable, and that the input varies very little within the duration of the transient response (with the result that transients caused by adjustments to the parameter can be neglected). The first section of the paper presents this highly simplified problem in a very general form; the final result is the transfer function given in Eq (7), which is simply the pulse transfer function of a system with fixed parameters. The second section deals with the follow-up and noise-induced errors; again, the treatment is very general, and such as may be found in any standard treatment of the subject. The third section deals with the optimum law to be followed by the variable parameter. The fourth section deals with an example of a system whose open-loop transfer function is given by Eq (4.1), and whose useful

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Calculation of Servos with Self-Adjusting Parameters

signal is given by the equation appearing above Eq (4.2).
The subsequent development is clear. The paper contains
1 figure and 9 references, of which 5 are Soviet and 4 are
English.

SUBMITTED: November 21, 1958.

Card 2/2

KOZLOV, Yu. M. (Leningrad)

Calculation of a self-adapting servo-system having two-step parameter control. Izv. AN SSSR. Otd. tekhn. nauk. Energ. i avtom. no. 4:112-115
Jl-Ag '59. (MIRA 12:11)

(Servomechanisms)

87997

1.5400

2708

S/135/61/000/001/010/018
A006/A001

AUTHOR: Kozlov, Yu.M., Engineer
TITLE: Electron-Beam Guns for Welding Metals in a Vacuum
PERIODICAL: Svarochnoye proizvodstvo, 1961, No. 1, pp. 38 - 40

TEXT: Basic requirements to electron beam guns are: focusing the electron beam to a minimum diameter; beam power not below 1 - 2 kw; maximum focal distance and conductance; simple, safe and reliable operation. The author together with V.I. Filippov carried out experimental investigations to develop focusing systems of electron guns for the welding of metals. All the experiments were made with a maximum accelerating voltage of 22 - 25 kilovolt. Conductance was determined by the equation:

$$K = \left(1 - \frac{I_a}{I_a + I_c} \right) \cdot 100\%$$

where I_a is the current in the "anode-ground" circuit and I_c is the current on the work piece. Measurement of the beam diameter and determination of the focal distance is made by a method developed by the author. A ground-insulated metallic

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A006/A001

Electron-Beam Guns for Welding Metals in a Vacuum

frame is fastened at a certain angle on the welding table, moving in respect to the electron beam. Tungsten wires with expansion springs are fixed to the frame edge at different heights from the table, due to the unparallel position of the frame. This is connected to the ground through a resistance. When the frame moves with the table in respect to the beam, the wires cross the beam, current flowing through the "frame-resistance-ground" circuit. A ЭПТ-09 (EPP-09) self-recording device registers the current pulse curve which can be used to determine the beam diameter in the given section and the focal distance of the cascade investigated. The experiments show that two-cascade systems with an electrostatic and an electromagnetic focusing cascade proved most efficient. Two types of two-cascade electron beam guns have been developed. 1) Electrostatic focusing of the beam is made with a conic cathode and a plane anode in the form of a cylinder or disk with an aperture for the passage of the electron beam (Figure 1), assuring an axially symmetric convergent beam. Final focusing is performed with the aid of a magnetic lens which is placed in such a manner that its center coincides with the spot of minimum diameter of the beam after focusing by the electrostatic cascade. The 58 mm high, 100 mm diameter lens consists of a 10 watt coil placed into a metallic Armco iron body with dismountable pole tags. The lens is fed from a selenium rectifier. By varying the current in the coil and measuring the diameter

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A006/A001

Electron-Beam Guns for Welding Metals in a Vacuum

of the electron beam, optimum feed conditions of the coil and the focal distance are established. The latter is 62 mm, or 30 - 40 mm from the edge of the ion trap of the lens. This focal distance makes it possible to observe the formation of the seam. By this two-cascade focusing system, a 1.0 - 1.5 mm diameter electron beam on the work piece is obtained, conductance is 98 - 99%. Welding of 1 - 2 mm thick steel and other metals with the use of the described gun proved satisfactory.

2) Electrostatic focusing with concentric spherical electrodes at a 2.5 ratio of the sphere radii and 11.2 mm diameter of the anode aperture yielded satisfactory results in respect to conductance and convergence of the beam. Final focusing is performed using the described lens. A gun with spherical electrodes is shown in Figure 3. It consists of a plug, 1, for high-voltage connection and gun inclination of gun 3, an electrostatic focusing cascade, including the stainless steel cathode and anode with polished operational surfaces 5; a self-centering cathode holder, 4, a magnetic lens 6, and a protective casing 7. Both focusing cascades represent a single system which can be easily disconnected from the cathode holder and centered with the aid of a special master form. The 22 - 28 kilovolt spherical cathode is insulated from the ground-connected anode by a glass socket. Ion traps protect the magnet and the anode from ion bombardment during

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A006/AC01

Electron-Beam Guns for Welding Metals in a Vacuum

metal evaporation. The focal distance of cascade No. 1 is 73 mm; the minimum beam diameter is 0.8 - 1.5 mm at an emission current of 20 - 50 mamp. Conductance of cascade No. 1 is 99.8%. In addition to the electron beam guns the author developed high power and high voltage rectifiers with air cooling on B 1-01/30 (V1-01/30) kenotrons; oil-cooled rectifiers with the same kenotrons, and a gun supply unit which was developed by L.N. Gol'dfarb. The supply unit includes a three-phase high-voltage 3 kw (25 kilovolt) selenium rectifier with smooth control and an incandescence transformer. A circuit diagram of the supply unit is shown in Figure 7. Experimental welding of 1 - 2 mm thick steel, 2 mm thick aluminum and some high-melting and easy oxidizing metals yielded satisfactory joints. When welding with an electron beam the low pressure of the beam on the welding pool is a characteristic feature of the process. Beam pressure P is determined by the formula:

$$P = \frac{25,2 \times 10^{18} \times I \times m \sqrt{\frac{2eU}{m}}}{\pi \cdot d^2}$$

where I is the beam current in amps; m, e are the electron mass and charge; U is the accelerating voltage and d is the beam diameter. The beam pressure calculated by the aforementioned formula was equal to 0.12 g/cm².

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87998

S/135/61/000/001/011/018
A006/A001

1.5400

2708

AUTHORS: Kostyuk, V.A., Candidate of Technical Sciences, Kozlov, Yu.M.,
Shuvalov, A.V., and Gerasimenko, A.V., Engineers

TITLE: Industrial Units for Welding With an Electron Beam

PERIODICAL: Svarochnoye proizvodstvo, 1961, No. 1, pp. 41 - 43

TEXT: The authors developed two special automated units for the welding of several work pieces of the same type without disturbance of the vacuum. 1) the 3NY-1 (ELU-1) unit is intended for the welding with an electron beam of longitudinal and circumferential joints on high-melting and easy oxidizing metal parts. Up to 10 articles of the same type can be welded without disturbance of the vacuum. The unit consists of a working chamber, mechanisms for the fastening and displacement of the work, an electron gun, a vacuum station, a high-voltage power supply, a three-phase interrupter and a gun control desk. The working chamber is placed on a heavy frame; the mechanisms of fastening and displacement are arranged on trolleys and are wheeled out of the chamber during loading and unloading the machine. Figure 2 shows an attachment for the welding of 250 - 1,000 mm sheets which are fastened to the welding table. Round parts are welded on a special mechanism as-

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87998

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A006/A001

Industrial Units for Welding With an Electron Beam

During the automated setting of the work, assembly of elements to be welded in the vacuum, and rotation during welding. The vacuum station is equipped with 2 fore-vacuum pumps and a high-vacuum unit equipped with a vapor jet pump ensuring a vacuum of not less than $5 \cdot 10^{-5}$ mm Hg within 15 - 20 minutes after the onset of evacuation. An electron beam gun as described by Ye.M. Kozlov in the preceding article is used. It can be displaced vertically by 45 mm and inclined through 30° providing for a horizontal displacement of the beam by 15 mm. The incandescence of the gun cathode is made through a high-voltage cable. The magnetic lens (7-10v) is fed from a stabilized rectifier. The portable gun supply unit includes a high-voltage generator consisting of a transformer and a rectifier (25 kv, 3 kw) and an incandescence transformer (10 v, 30 amp) placed in an oil-filled container. The ЭЛН-2 (ELU-2) unit, designed under the supervision of Engineer K.A. Lashkov, is intended for welding circular edge joints. Up to 30 parts can be welded without disturbance of the vacuum. The unit consists of a working chamber with an automatic device, an electron gun, a vacuum station, a high-voltage power supply source, a three-phase interrupter and two cabinets for electric equipment. Charging and discharging of the work pieces is made through a hatch in the operational chamber cover. The drive and control of the internal servomechanisms is brought about outside the chamber. Repeated evacuation up to a $5 \cdot 10^{-5}$ mm Hg vacuum is performed

Card 2/4

87228

Industrial Units for Welding With an Electron Beam

S/135/61/000/001/011/018
A006/A001

within 14 - 15 minutes. The unit is equipped with a portable control desk. Tests were made with both of the described machines. On the ELU-2 unit 200 - 210 butt chokes were welded to 2 mm thick aluminum alloy parts within 7 hours. During welding sufficient evacuation of the cavities was obtained, the oxide film was eliminated and the penetration depth was greater than in welding in a gas shield. Welding speed was 25 - 30 m/hr. On the ELU-1 machine various types of weld were produced with 1X18H9T (1Kh18N9T) steel, including circumferential, edge and overlap joints; thin walled parts were welded to thick walled ones. Sheets were welded on a copper backing. The speed of welding 1 mm thick sheets at 12 m-amp current in the beam and 22 kv accelerating voltage, was 34 m/hr. The minimum diameter of the electron beam is obtained at a distance of 30 - 40 mm from the focusing lens butt; the vacuum was $5 \cdot 10^{-5}$ mm Hg. The joints had a satisfactory quality. The machines are recommended for welding pieces of high-melting and rare metals.

Card 3/4

Industrial Units for Welding With an Electron Beam

87,98

S/135/61/000/001/011/018
A006/A001

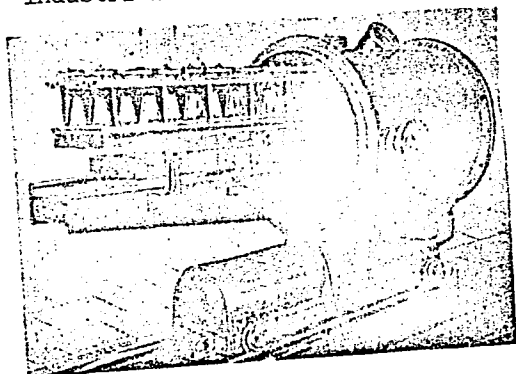


Figure 2:

Attachment for welding sheet material on the
ELU-1 unit.

There are 5 figures and 4 references: 2 Soviet and 2 German.

Card 4/4

S/024/61/000/006/005/019
E140/E335

16.8000

AUTHORS: Kozlov, Yu.M. and Leskov, V.G.

TITLE On one method of realizing the self-adjustment principle in nonlinear automatic systems

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Otdeleniye tekhnicheskikh nauk. Energetika i avtomatika no. 6, 1961, 42 - 46

TEXT: The authors propose to utilize the phenomenon of weak, limited-amplitude oscillations in systems close to the boundary of stability, to regulate automatically the loop gain in an automatic-control system. This is, of course, possible only if the oscillations can occur in a narrow band of frequencies in order to detect their presence on the background of random disturbances in the system, using narrow-band filters. There are 3 figures and 5 Soviet-bloc references. 1/2

SUBMITTED: June 19, 1961

Card 1/1

KOZLOV, Yu.M. (Leningrad)

Evaluation of the response time of an adaptive control system
operating near the stability boundary. Izv. AN SSSR. Tekh.
kib. no.4:119-125 J1-Ag '64. (MIRA 17:12)

L 42947-66 EWT(d)/EWP(v)/EWP(k)/EWP(h)/EWP(l) BC/GD
ACC NR: AT6017613 (N) SOURCE CODE: UR/0000/65/000/000/0154/0163

AUTHOR: Kozlov, Yu. M.

ORG: none

TITLE: Approximate analysis of transfer processes in certain nonlinear and self adaptive systems

SOURCE: Vsesoyuznaya konferentsiya po teorii i praktike samonastroyayushchikhsya sistem. 1st, 1963. Samonastroyayushchiyesya sistemy (Adaptive control systems); trudy konferentsii. Moscow, Izd-vo Nauka, 1965, 154-163

TOPIC TAGS: self adaptive control, nonlinear automatic control, nonlinear control system, control theory, first order differential equation, second order differential equation, differential equation system

ABSTRACT: A method for analyzing self-adaptive systems containing a nonlinear element (a detector) in their adaptive feedback loop is reported. The approach is based on a method of harmonic linearization developed by Ye. P. Popov specifically for investigating transient processes in adaptive systems; the method is valid only if the output of the nonlinear element contains a constant

$$\frac{1}{2\pi} \int_0^{2\pi} F_0(a \sin \psi) d\psi \neq 0.$$

Card 1/2

L 42947-66

ACC NR: AT6017613

An adaptive control system can be described by a set of nonlinear differential equations which generally do not lend themselves to precise solution. The author proposes a technique for the approximate solution of such equations for specific systems. An adaptive control system is considered in which stability is maintained by the adaptive feedback loop. The information concerning stability is derived from the oscillatory signal which occurs in the system when it approaches the limits of its stability. In this case, the forward transfer function of the control system can be replaced by a simpler nonlinear second order equation to the first degree of approximation. Two cases are analyzed: one involving symmetrical oscillations and the other nonsymmetrical oscillations. Approximate solutions for system equations for both cases are given. In discussing the present paper, N. A. Ozeryanyy notes the similarity of the proposed adaptive system to a parametric feedback system which has the undesirable feature of automodulating oscillations due to instability in the adaptive feedback loop. Orig. art. has: 39 formulas, 2 figures.

SUB CODE: 09/
13/

SUBM DATE: 22Nov65/

ORIG REF: 004/

OTH REF: 001

Card 2/2 MLP

ACC NR: AP6033946

SOURCE CODE: UR/0280/66/000/004/0185/0193

AUTHOR: Kozlov, Yu. M. (Leningrad)

ORG: none

TITLE: Quality assessment of oscillatory transient processes in fast acting, non-search, self adaptive systems

SOURCE: AN SSSR. Izvestiya. Tekhnicheskaya kibernetika, no. 4, 1966, 185-193

TOPIC TAGS: automatic control system, automatic control theory, self adaptive control, linear approximation, harmonic oscillation

ABSTRACT: The possibility of applying harmonic linearization in the assessment of the properties of transient processes in fast acting self adaptive systems is considered. Such systems are described by high order differential equations. The method of investigation, based on separate harmonic linearization of the main control loop equations and those of the self adaptive loop, allows for the analysis of the non-symmetrical oscillatory processes, while taking into account the effect of slow parameter variation of the object on the characteristics of the transient process. The quality of performance of a self adaptive system can be assured by one of two methods: in a non-search system, the object of control is to maintain the relation

$$|Q - q| \leq \delta$$

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ACC NR: AP6033946

where Q is the desired index of quality, q is the actual index of quality and δ is the acceptable level of deviation. Q and q can be the values of the oscillation amplitude, number of zero crossings of the impulse transient function in the main control loop, the magnitude of the damping decrement, or indices of other process characteristics in the main control loop. In a second class of self adaptive, so-called "extremum", systems the relation is

$$q = \text{extremum}$$

The time for automatic adjustment is considerably shorter in the non-search systems, which are either based on the utilization of error signals resulting from comparison of the actual system performance with that of a reference system, or on the comparison of the actual quality indicator values with the desired values. The latter systems are the subject of this paper. There are three sub-classes of such self adaptive systems: 1) The self-adjustment of the parameters occurs after the conclusion of a transient process, i. e., the time for self-adjustment is longer than the duration of the transient process. 2) The self-adjustment is carried out during the transient process; the duration of self-adjustment is equal to, or shorter than the duration of the transient process. 3) The commands of self-adjustment are generated according to the current value of the controlled parameter. This subclass really belongs to a class of systems with nonlinear correction, rather than into the class of self adaptive systems. The analysis of the first subclass systems reduces to the solution of linear differential equations with abruptly varying coefficients, since the self adaptive loop is actually dis-

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ACC NR: AP6033946

connected during the transient process. The analysis of the second and third subclasses is much more difficult, since the self adaptive loop is active during the transient process, which leads to necessity of using nonlinear differential equations for describing these systems. The proposed method for handling the analysis of second and, in part, third, subclasses of self adaptive systems by approximating the actual equations by second order differential equations with constant coefficients (with the roots of the characteristic equation located on the imaginary axis) consists of separate harmonic linearization of equations describing the processes in the main loop and in the self adaptive loop, such that the linearization for the main loop is based on the first harmonic of oscillations, and for the self adaptive loop on the zero harmonic. Actually, this technique is an extension of the harmonic linearization method for the nonlinear systems of the third class, containing nonlinearities $F_0(y)$ satisfying

$$\frac{1}{2\pi} \int_0^{2\pi} F_0(a_+ \sin \psi) d\psi = 0,$$

where $a_+ \sin \psi$ are the oscillations of the value y , and $F_0(y)$ is the nonlinear transformation algorithm of y . Orig. art. has: 3 figures, 35 formulas.

SUB CODE: 13 / SUBM DATE: 10Dec64/ ORIG REF: 010

Card 3/3

ACC NR: AP7002246

SOURCE CODE: UR/0280/66/000/006/0145/0153

AUTHOR: Kozlov, Yu. M.; Yusupov, R. M. *(Leningrad)*

ORG: none

TITLE: Selecting the type of automatic system in the presence of incomplete information

SOURCE: AN SSSR. Izvestiya. Tekhnicheskaya kibernetika, no. 6, 1966, 145-153

TOPIC TAGS: system reliability, automatic control system, self adaptive control, control system stability

ABSTRACT: One and the same task may in certain cases be accomplished by using various types of automatic systems: open, closed, self-adaptive, etc. In each case the selection of a particular automatic system that satisfies most fully the pertinent technical requirements should be based on some overall quality criterion which must take into account a number of factors: accuracy of the system, its reliability, manufacturing cost, reparability, etc. To a first approximation the quality of an automatic system can be evaluated on the basis of the effectiveness criterion (Vasil'yev, B. V., et al. Nadezhnost' i effektivnost' radioelektronnykh ustroystv. Izd-vo Sov. radio, 1964; Kochubiyevskiy, I. D. Izv. AN SSSR, Tekhnicheskaya ki-

Card 1/2

ACC NR: AP7002246

bernetika, 1964, no. 3), which takes into account only the accuracy and reliability of the system, and so the application of this criterion is considered here for selecting a type of automatic system in the presence of incomplete a priori information about the controlled process. Self-adaptive systems (SAS) normally are superior in their dynamic qualities to conventional (nonself-adaptive) systems but so far they have also been more intricate and hence not as reliable as conventional systems. A choice between either type of systems may be made in individual cases on the basis of the theory of the coarseness and sensitivity of control systems, "coarseness" (stability in Lyapunov's theory) being a property of the systems in which the topological structure of phase trajectories remains unaffected by small variations in the differential equations describing the system. The final choice, however, is made on the basis of the effectiveness criterion, on regarding automatic systems as systems with random intercorrelated parameters, and on calculating the probability of system failures in each individual case. Orig. art. has: 31 formulas.

SUB CODE: 09, 14, 12/ SUBM DATE: 13Jul65/ ORIG REF: 011/ OTH REF: 001

Card 2/2

OGNEV, B.I.; KOZLOV, Yu.N.

Estimating the evaporation from the water surface. Meteor. i
gidrol. no.1:34-36 Ja '62. (MIRA 15:1)
(Evaporation)

MANTSEV, V.S., inzh.; VUKOLOV, L.A., kand.tekhn.nauk; KOZLOV, Yu.P., inzh.;
YUKKEL', N.G., inzh.

Improving the manufacturing technology of brake shoes made of composition
materials. Vest.TSNII MPS 22 no.1:50-53 '63. (MIRA 16:4)
(Rail roads—Brakes)

KUDRYASHOV, Yuriy Borisovich. Prinimali uchastiye: KOZLOV, Yu. P.;
SUMARUKOV, G.V.; TOLKACHEVA, Ye.N.; RYABCHENKO, N.V.; TARUSOV, B.N., red.;
CHERKASOVA, V.I., red.; MURASHOVA, V.A., tekhn. red.

[Laboratory work in general biophysics in eight volumes]
Praktikum po obshchei biofizike v vos'mi vypuskakh. Pod
obshchei red. B.N.Tarusova. Moskva, Vysshaia shkola.
No.7. [Radiobiology; radiation injury of biological objects
under the effect of a single whole body X-ray or gamma ir-
radiation] Radiobiologiya; luchevoe porazhenie biologicheskikh
ob"ektov pri deistvii obshchego odnokratnogo rentgenovskogo
ili gamma-oblucheniia. 1962. 273 p. (MIRA 16:4)
(RADIOBIOLOGY--LABORATORY MANUALS)

KOZLOV, Yu.P.; TAMBIYEV, A.Kh.; TARANENKO, G.A.

Free-radical states of some antibiotics. Dokl. AN SSSR 154
no. 3:718-720 Ja '64. (MIRA 17:5)

1. Moskovskiy gosudarstvennyy universitet im. M.V.Lomonosova.
Predstavleno akademikom V.A.Karginym.

S/190/61/003/008/017/019
B110/B215

158620

AUTHORS: Kozlov, Yu. P., Tarusov, B. N.

TITLE: Radiation grafting of polyvinyl pyrrolidone on wheat seeds

PERIODICAL: Vysokomolekulyarnyye soyedineniya, v. 3, no. 8, 1961, 1265-1271

TEXT: The present paper deals with the grafting of polymers on seeds of *Triticum vulgare* (winter-wheat) of the year 1959. Vinyl pyrrolidone (VP) which is readily soluble in water, was chosen as monomer. Dried seeds (~15 g) were irradiated by a ГYT-Co⁶⁰-400 (GUT-Co⁶⁰-400) device with doses of 10-100 kr (3-33 min) in the presence of oxygen and also in vacuo (5·10⁻⁵ mm Hg). The experiments were performed at 30, 50, and 70°C for 2-24 hr. Control experiments were conducted under the same conditions without irradiation. The authors measured the percentual weight increase of the seeds dried again after treatment, which was due to an increase in the amount of polyvinyl pyrrolidone (PVP). Table 1 gives the results for 30°C and 24 hr. The temperature and pressure dependence of grafting is shown in Fig. 3. The following results were obtained: 1) A 5 % VP solution is most effective. 2) Increase of the degree of grafting with

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S/190/61/003/008/017/019
B110/B215

Radiation grafting of...

temperature in the presence of oxygen. The decomposition of peroxide compounds formed by irradiation in the presence of oxygen is assumed to cause grafting. 3) Low degree of grafting at high temperatures in the absence of O_2 . In this case, radicals are formed first, whose recombination is accelerated at high temperatures, so that they become ineffective. There are 3 figures, 2 tables, and 11 references: 7 Soviet and 4 non-Soviet. The most important references to English-language publications read as follows: Ref. 4: A. Chapiro, Industr. Plast. Mod., 2, 34, 1957. Ref. 6: A. Chapiro, Industr. Plast. Mod., 2, 49, 1957.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova
(Moscow State University imeni M. V. Lomonosov)

SUBMITTED: January 17, 1961

Card 2/4

S/190/61/003/008/018/019
B110/B215

AUTHORS: Tarusov, B. N., Kozlov, Yu. P.

TITLE: Effect of radiation grafting of polyvinylpyrrolidone on the biological functions of wheat seeds

PERIODICAL: Vysokomolekulyarnyye soyedineniya, v. 3, no. 8, 1961, 1272-1276

TEXT: In previous papers (Ref. 10: Vysokomolek. soyed., 3, 1264, 1961) the authors showed that the treatment of the seeds of winter-wheat (*Triticum vulgare*) with vinylpyrrolidone (VP) causes the grafting of poly-VP (PVP) on the seeds. Treatment with γ -rays accelerated the process. The present paper deals with the effect of aqueous VP solutions and of PVP grafting on the biological reaction of the seeds. Methods of treatment and irradiation are discussed in Ref. 10. The experiments were conducted at 50°C in the presence of oxygen. The criteria of the biological reaction were: 1) the germinating power of the seeds (150-200 seeds in Petri dishes with water, irradiation with a daylight lamp, temperature: $24 \pm 0.5^\circ\text{C}$); 2) height of the stems (coleoptiles) after 7 days; 3) faculty of the root cells to divide (mytotic activity). Table 1 gives data on the germinating power
Card 1/4

S/190/61/003/008/018/019
B110/B215

Effect of radiation grafting...

which show the specific protective effect of a 5% VP solution. The same protective effect of the solution was found with respect to the growth of coleoptiles. The optimum effect was attained after a 4 hr treatment with a 5 % aqueous VP solution. Grafting had a protective effect on the mytotic activity of the root cells.

Radiation dose in kr	Medium	Number of dividing cells	mytotic activity in %
0	H ₂ O	305	10.1
	5 % VP solution	307	10.2
20	H ₂ O	250	8.3
	5 % VP solution	300	10.0
50	H ₂ O	102	3.4
	5 % VP solution	218	7.2

✓

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S/190/61/003/008/018/019
B110/B215

Effect of radiation grafting...

The protective effect is explained by the grafting of PVP on irradiated wheat seeds. Processes disturbing the natural growth of the plants are thus weakened or eliminated. There are 3 figures, 2 tables and 12 references: 11 Soviet and 1 non-Soviet.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova
(Moscow State University imeni M. V. Lomonosov)

SUBMITTED: January 17, 1961

Степень выживаемости облученных семян пшеницы при
последующей их обработке водными растворами ВП
в течение 4 час. (в %)

① Доза об- лучения, крентес- ны	② Концентрация ВП в растворе. %							
	0	0,5	1,0	2,0	5,0	10,0	50,0	100,0
0	90	89	90	88	89	70	0	20
10	80	78	84	85	87	52	0	15
20	75	77	75	80	88	40	0	12
40	57	58	59	65	70	25	0	5
50	50	52	49	53	65	20	0	5
100	42	40	40	45	60	15	0	2

Card 3/4

TARUSOV, B.N.; KOZLOV, Yu.P.

Grafting polymers in irradiated wheat seeds. Dokl. AN SSSR 140
no.3:700-712 S '61. (MIRA 14:9)

1. Moskovskiy gosudarstvennyy universitet im. M.V.Lomonosova.
Predstavleno akademikom V.A.Karginym.
(Polymerization, Effect of radiation on) (Seeds)

KOZLOV, Yu. P.

(b)
Radical Determination by Polymer Grafting in Irradiated Cells

Yu. P. Kozlov and N. N. Tarasov

A new method has been developed for the determination of active radiation induced radicals by the polymerization of monomers introduced into the cell. The non-toxic water soluble monomers of the vinyl series were used for this purpose. Plant cells were used for the study of conditions for the penetration of monomer molecules into cells, as well as for their maximum concentrations which did not impair the activity of the biological objects.

It was established that, when radicals are present in cells, polymerization of the monomers takes place and the formed polymers are firmly grafted on to cell structures. The polymerization was determined by the micro-balance method. A comparison with the electron paramagnetic resonance method was carried out. It was shown that the method presents advantages since (a) it permits a measure of the number of active radicals in living, undamaged cellular structures; (b) it determines, not the stationary concentration of the radicals but their integral number for definite periods of time, and thus allows measurements at low radiation doses; (c) the sensitivity of the method is completely sufficient for carrying out determinations at conventional doses.

Lomonosov Moscow State University, USSR

report presented at the 2nd Intl. Congress of Radiation Research,
Marrogate/Yorkshire, Gt. Brit. 5-11 Aug 1962

KOZLOV, Yu. P.; GORIN, A. I.

Effect of vinyl pyrrolidone on the biological functions of gamma-irradiated yeast cells. Radiobiologiya 2 no.3:383-386 '62.
(MIRA 15:7)

1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova,
biologo-pochvennyy fakul'tet.

(PYRROLIDINONE) (GAMMA RAYS—PHYSIOLOGICAL EFFECT)
(YEAST)

S/205/62/002/004/002/014
I015/I215

AUTHOR: Kozlov, Yu. P., Gorin, A. I., and Barnetskiy, F.

TITLE: Effect of some monomers on the biofunctions of
irradiated yeast cells

PERIODICAL: Radiobiologiya, v. 2, no. 4, 1962, 539-542

TEXT: This study is the continuation of previous ones. *Saccharomyces vini* (strain Megri-139-B) were irradiated with a γ -Co⁶⁰-400 (γ -Co⁶⁰-400) apparatus at a dose rate of 1250r/min. The total dose was 12.5-75cu. The survival rate after irradiation and treatment with monomers was determined by the number of colonies. The monomers were vinylpyrrolidone (VP) acrylonitrile (AN) and acrylamide (AA). The concentrations of the aqueous solutions of the monomers were 2%, 1% and 1% respectively, and had no effect on the divisions of the yeast cells, but they resulted in optimal concentrations for increasing the survival rate of the irradiated cells. A marked protective effect of these monomers against

Card 1/2

S/205/62/002/004/002/014
I015/I215

Effect of some monomers....

irradiation was found when oxygen was present in the culture medium.
The possible mechanism of this phenomenon is discussed. There are
4 figures and 1 table.

SUBMITTED: October 7, 1961

Card 2/2

S/205/63/003/001/025/029
E065/E485

AUTHORS: Kozlov, Yu.P., Sergeyev, G.B.

TITLE: The spectra of electron paramagnetic resonance of irradiated and monomer-treated wheat-seed embryos

PERIODICAL: Radiobiologiya, v.3, no.1, 1963, 130-131

TEXT: In an attempt to clarify certain aspects of the chemical processes associated with the formation of free radicals in irradiated tissues, an investigation was carried out on the changes in the electron paramagnetic resonance (EPR) in vacuum-dried wheat embryos after exposure to a Co^{60} source at room temperature in the presence of atmospheric oxygen. After irradiation one portion of the embryos was left untreated for use as controls, a second portion was treated with water for one hour and a third was treated with a 5% vinylpyrrolidone (VP) solution in water for the same period. The last two sets of embryos were dried to constant weight. EPR spectra, obtained through the use of the ЭПР-2 (EPR-2) apparatus, are shown for the treated embryos and controls. In the controls a dose of 4×10^4 r resulted in an EPR signal in the form of an asymmetrical singlet, Card 1/2

S/205/63/003/001/025/029
E065/E485

The spectra of electron ...

having a midwidth of 10 Oe and a q factor of 2.004. The concentration of free electrons was equal to 2.75×10^{14} and gradually increased with time and increased temperature. A higher dosage rate did not alter the spectrum. The signal was completely eliminated in the VP-treated embryos as a result of the disappearance of free radicals from the system. In the moisture-treated embryos the number of free electrons was slightly reduced but the general shape of the signal was similar to that in the control. There is 1 figure.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im.
M.V.Lomonosova, biologo-pochvennyy fakul'tet
(Moscow State University imeni M.V.Lomonosov,
Biology and Soil Division)

SUBMITTED: June 6, 1962

Card 2/2

KOZLOV, Yu.P.; KALABUKHOVA, T.N.

Effect of acrylamide and its hydrated derivative on irradiated
biological systems. Dokl. AN SSSR 152 no.3:737-739 S '63.
(MIRA 16:12)
1. Moskovskiy gosudarstvennyy universitet im. M.V.Lomonosova.
Predstavleno akademikom V.A.Engel'gardtom.

*

KOZLOV, Yu.P.; GORIN, A.I.

Effect of the inhibitors of free-radical processes on irradiated yeast cells. Nauch. dokl. vys. shkoly; biol. nauki no. 2:91-93 '64. (MIRA 17:5)

1. Rekomendovana kafedroy biofiziki Moskovskogo gosudarstvennogo universiteta im. M.V.Lomonosova.

KALABUKHOVA, T.N.; KOZLOV, Yu.F.

Effect of monomers on human erythrocytes during the action
of gamma-irradiation. Radiobiologiya 3 no.5:758-761 '63.
(MIRA 27:4)

1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova,
biologo-pochvennyy fakul'tet.

LOMSADZE, B.A.; KOZLOV, Yu.P.

Autolysis inhibition by a monomer. Nauch. dokl. vys. shkoly;
biol. nauki no.4:74-76 '64. (MIRA 17:12)

1. Rekomendovana kafedroy biofiziki Moskovskogo gosudarstvennogo
universiteta im. M.V. Lomonosova.

ARKHIPOV, A.S.; KOZLOV, Yu.P.

Inhibition of autolysis by substances capable of radical
polymerization. Radiobiologiya 5 no.4:616-617 '65.

(MIRA 18:9)

1. Moskovskiy gosudarstvennyy universitet imeni M.V. Lomonosova.

ISMAILOVA, S.Kh.; KOZLOV, Yu.P.; BURLAKOVA, Ye.V.

Effect of acrylamide and its hydrated derivative on the growth
and development of tumoral and normal plant tissue culture.

Dokl. AN SSSR 161 no.1:230-232 Mr '65.

(MIRA 18:3)

1. Moskovskiy gosudarstvennyy universitet. Submitted June 10, 1964.

TARUSOV, B.N.; KOZLOV, Yu.P.; URTILE, S.; CHZHOU YUN-TSZEN [Chou Yung-tseng]

Free radical processes in irradiated homogenates of animals tissues.
Dokl. AN SSSR 163 no.3:752-753 J1 '65. (MIRA 18:7)

1. Moskovskiy gosudarstvennyy universitet. Submitted November 25,
1964.

POPOV, V.V.; MELIKHOVA, G.I.; KOZLOV, Ya.S.

Connection between some physicochemical changes in irradiated skin
and its capacity for a rapid transformation into the cornea. Dokl.
AN SSSR 165 no.1:241-244 N 165. (MIRA 18:10)

1. Moskovskiy gosudarstvennyy universitet. Submitted December 23,
1964.

TKHOR, L.F.; KOZLOV, Yu.P.

Effect of some antibiotics on the chemiluminescence of oleic acid. Biofizika 10 no.3:523-524 '65. (MIRA 18:11)

1. Biologo-pochvennyy fakul'tet Moskovskogo gosudarstvennogo universiteta imeni Lomonosova. Submitted July 11, 1964.

TARANENKO, G.A.; KOZLOV, Yu.F.; BURLAKOVA, Ye.V.

Study of free radical processes in the tissues of irradiated animals. Nauch. dokl. vys. shkoly; biol. nauki no.1:82-86 '66. (MIRA 19:1)

1. Rekomendovana kafedroy biofiziki Moskovskogo gosudarstvennogo universiteta. Submitted July 8, 1965.

L 28841-66 EWT(m)

ACC NR: AP6018652

(A,N)

SOURCE CODE: UR/0325/66/000/001/0082/0086

AUTHOR: Taranenko, G. A.; Kozlov, Yu. P.; Burlakova, Ye. V.

ORG: Department of Biophysics, Moscow State University im. M. V. Lomonosov (Kafedra biofiziki Moskovskogo gosudarstvennogo universiteta)

TITLE: Study of free radical processes in tissues of irradiated animals

SOURCE: Nauchnyye doklady vysshey shkoly. Biologicheskiye nauki, no. 1, 1966, 82-86

TOPIC TAGS: free radical, copolymerization, mouse, radiation biologic effect, organic amide, radiation injury

ABSTRACT: The method of inoculated copolymerization of acryl amid labelled with ^{14}C was used to study the kinetics of free radical processes in certain tissues of animals exposed to radiation in doses of 600 and 1,500 r. Three series of experiments were conducted with white mice. Acryl amide was administered: 1) 30 minutes before irradiation; 2) immediately after exposure; and 3) at various intervals after irradiation and four hours before decapitation. The degree of copolymerization of AA- ^{14}C was determined by radiometric and autoradiographic methods. From the results of the experiment tissues of irradiated animals can be divided into three groups with respect to the character of free radical processes: tissues in which the concentration of free radicals did not differ from the norm (brain, blood erythrocytes, and

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L 28841-66

ACC NR: AP6018652

muscles), tissues in which it exceeded the norm (liver, kidneys, and blood plasma), and tissues in which it was lower than the norm (spleen). The character of free radical processes is disrupted in various forms of radiation injury. In the post-radiation period (600 r.) regulation of free radical reactions is observed in a number of tissues. This is apparently associated with the development of restorative processes. No such regulation occurs with lethal doses on the order of 1,500 r. Orig. art. has: 2 figures. [JPRS]

SUB CODE: 06, 07 / SUBM DATE: 08Jul65 / ORIG REF: 003

Card 2/2 CC

L 38254-66 EWT(m)

ACC NR: AP6028647

SOURCE CODE: UR/0020/66/166/006/1430/1483

AUTHOR: Popov, V. V.; Mel'nikov, V. A.; Kozlov, Yu. P.

ORG: Moscow State University im. M. V. Lomonosov (Moskovskiy gosudarstvennyy universitet)

TITLE: Certain physico-chemical changes in irradiated skin¹⁹ in connection with its formative peculiarities

SOURCE: AN SSSR. Doklady, v. 166, no. 6, 1966, 1480-1483

TOPIC TAGS: radiation biologic effect, skin physiology, tissue transplant, free radical, dermatology

ABSTRACT: The authors studied this question: if intensification of reactivity of irradiated skin is accompanied by a reduction in the level of radical processes taking place in it, then is the lower reactivity of sound-treated transplants not associated with an increase in the content of free radicals? Comparing the periods of the beginning and end of secondary induction of the horny layer in sound-treated, irradiated and normal skin with the dynamics of free radical reactions taking place, they concluded that there is a certain functional relation between physico-chemical or sub-microscopic processes in the cells of the epidermis and formative properties of skin transplants. This article was presented by Academician

A. N. Belozerskiy on 25 August 1965. Orig. art. has: 2 tables. [JPRS: 36,932]

SUB CODE: 06 / SUBM DATE: 25Aug65 / ORIG REF: 004 / OTH REF: 001

Card 1/1 MLP UDC: 591.3

KOZLOV, Yu. T., aspirant

Stabilizing the position of a container during its turning on a
flexible suspension. Vest. TSNII MPS 24 no. 3:55-58 165. (MIRA 18:8)

KOZLOV, Yu.T., inzh.

Planning the work of cranes in container processing yards.
Vest. TSNII MPS 25 no.1:60-63 '66. (MIRA 19:2)

SHTEFKO, I.V., kand.tekhn.nauk (Zhmerinka); KOZLOV, Yu.T., inzh. (Zhmerinka)

Transportation of freight in special containers. Zhel.dor.transp.
44 no.7:66-69 J1 '62. (MIRA 15:8)

1. Zhmerinskoye otdeleniye Yugo-Zapadnoy dorogi (for Kozlov).
(Railroads—Freight) (Containers)

KOZLOV, Yu.T., inzh.

Automatic control of bridge and gantry cranes. Mekh. i avtom. proizv.
(MIRA 18:3)
18 no.12:41-44 D '64.

PANASENKO, M.D., kand.tekhn.nauk; KOZLOV, Yu.V., inzh.

Study of separating devices for use in large drum boilers.
Teploenergetika 9 no.8:69-72 Ag '62. (MIRA 15:7)

1. Vsesoyuznyy teplotekhnicheskiy institut.
(Boilers—Equipment and supplies)

PANASENKO, M.D., kand.tekhn.nauk; KOZLOV, Yu.V., inzh.

Study of the hydrodynamics of water volume and separation
characteristics of steam volume with presence of bubbling.
Teploenergetika 10 no.1:46-51 Ja '63. (MIRA 16:1)

1. Vsesoyuznyy teplotekhnicheskii institut.
(Steam)

PANASENKO, M.D., kand.tekhn.nauk; ANTONOV, A.Ya., inzh.; FOMINA, V.N., inzh.;
KOZLOV, Yu.V., inzh.

Visual observation of processes in the drum of an operating boiler.
Teploenergetika 10 no.2:23-26 F '63. (MIRA 16:2)

1. Vsesoyuznyy teplotekhnicheskii institut.
(Boilers)

ANTONOV, A.Ya., kand. tekhn. nauk; KOZLOV, Yu.V., inzh.; FOMINA, V.N., inzh.;
BUYNOVSKAYA, L.G., inzh.; BULAVITSKIY, Yu.M., inzh.; GRISHINA, Ye.A.,
inzh.

Testing of a boiler with 220 ton/hour evaporative capacity with
individual separating devices. Elek. sta. 34 no.5:7-10 My '63.
(MIRA 16:7)

(Boilers—Testing)

KOZLOV, Yu.V., inzh.; ESKIN, N.B., inzh.

Calculation of the critical loads of separators. Teploenergetika
11 no.2:57-61 F '64. (MIRA 17:4)

1. Vsesoyuznyy nauchno-issledovatel'skiy teplotekhnicheskoy
institut i Moskovskoye otdeleniye Tsentral'nogo kotloturbinnogo
instituta.

MAN'KINA, N.N., kand. tekhn. nauk; KOZLOV, Yu.V., kand. tekhn. nauk;
KOROVIN, V.A., inzh.

Effectiveness of washing and separating systems of drum boilers
with 155 atm.-rating. Teploenergetika 12 no.8:34-38 Ag '65.
(MIRA 18:9)

1. Vsesoyuznyy teplotekhnicheskii institut.

KOZLOVA, A., vrach

Beware of methyl alcohol. Okhr.truda i sots.strakh. 5 no.4:30
Ap '62. (MIRA 15:4)

(Methanol)

TERENT'IEVA, O.F.; KANDEL', O.M.; STRUKOVA, M.T.; KOLBASNIKOVA, A.N.;
KOZLOVA, A.A.

The time of molasses production and the manufacture of citric acid.
Trudy VKNII no.16:104-108 '62. (MIRA 16:5)
(Molasses) (Citric acid)

KOZLOVA, A.A.

CHERNOVA, I.V.; KOZLOVA, A.A.; SAGITOVA, R.G.; SHELOMENTSOVA, N.I.

Epidemiologic effectiveness of enteroparenteral vaccination against
dysentery. Zhur. mikrobiol. epid. i immun. no.11:58-60 N '54.

(MLRA 8:1)

1. Iz Ufimskogo instituta vaktsin i syvorotok (dir. U.S.Yenikeyeva,
nauchnyy rukovoditel' prof. N.I Mel'nikov)
(DYSENTERY, BACILLARY, prevention and control,
vacc., enteroparenteral technic)

KOZLOVA, A.A.; POPOVA, T.N.

Diagnostic value of phage excretion in dysentery. Trudy LSGMI 46:
132-138 '59. (MIRA 13:11)

1. Kafedra mikrobiologii Leningradskogo sanitarno-gigiyenicheskogo
meditsinskogo instituta (zav. kafedroy - prof. M.N.Fisher).
(DYSENTERY) (BACTERIOPHAGE)

CIA-RDP86-00513R0008259100

first $E_{1/2}$ remained unaffected by the concn. of the supporting electrolyte, $E_{1/2}$ of the second wave shifted with the concn. of the supporting electrolyte. It is recommended to det. Cr in the presence of 0.1-0.2 N CaCl_2 in a stream of H_2 at a pH 3.9-5. II. Conditions for the analysis of the arsenic subgroup. M. A. Portnov and V. E. Porokhina. *Ibid.* 3, 85-91 (1948).—Detn. of Sn was attempted in HCl , H_2SO_4 , alk. KNa tartrate, and $\text{H}_2\text{SO}_4 + \text{EtOH}$ solns. The best results were in HCl solns. A sample of Sn was dissolved in 6-8 N HCl and the soln. was dild. to 1 N HCl . As supporting electrolyte BaCl_2 or NaCl was used. Prior to taking of polarograms H_2 was passed through the soln. for 1 hr. Under these conditions the height of the Sn^{2+} wave is proportional to its concn. in soln. Equally good results were obtained in a soln. of 1 part 5 N H_2SO_4 and 1 part of EtOH using Na_2SO_4 or K_2SO_4 as supporting electrolyte and carrying out the analysis under H_2 . EtOH reduced the height of wave. In the absence of H_2 the height of the Sn^{2+} wave was reduced to zero after 3 hrs. Trivalent Sb was detd. in 10 N H_2SO_4 , $E_{1/2} = -0.3$ v.; in an oxalate soln., $E_{1/2} = 0.4$ v.; in a 10-20% alk. soln. $E_{1/2} = -0.3$ v.; in a neutral soln. $E_{1/2} = -0.6$ v.; and in a soln. consisting of 1 part of H_2SO_4 and 1 part of EtOH , $E_{1/2} = -0.27$ v. The supporting electrolyte should be Na_2SO_4 or K_2SO_4 , the soln. should contain 2-3 drops of gelatin, and the detn. should be carried out under H_2 . Trivalent As in H_2SO_4 soln. gave 3 waves. The 3rd is unstable. In an alk. soln. As could not be detd. In a $\text{H}_2\text{SO}_4 + \text{EtOH}$ soln. As gave 3 waves of which only the 1st, $E_{1/2} = -0.64$ v., is reliable. When Sn, Sb, and As are present together, they are readily detd. in a soln. of 1 part 5 N H_2SO_4 and 1 part EtOH and contg. 3-4 drops of 1% gelatin soln. M. Hozel.

22 M. A. PORTNOV
E. A. A. Kozlova

1

CA KOZLOVA, A A

Systematization of polarographic analysis of cations.
 III. Determination of elements of the copper, arsenic,
 and iron subgroups when present together. M. A.
 Portnov and A. A. Kozlova. *Zhur. Anal. Khim.* 4, 89-93
 (1949); cf. *C.A.* 43, 7377a. — An outline is given of an
 analytical scheme for the analysis of a soln. contg. Cu,
 Mn, Cd, Pb, As, Bi, Sn, Cr, Al, and Fe. The entire
 analysis is carried out with a single supporting electrolyte of the
 same concn. $E_{1/2}$ is independent of the concn. (c) of the
 ion being detd., unless c becomes large (more than 0.02 N).
 The nature and concn. of the supporting electrolyte do af-
 fect $E_{1/2}$. In this respect 3 cases are possible. (1) The
 ions of the supporting electrolyte do not react with the
 ions being detd., in which case $E_{1/2}$ is practically unaf-
 fected if c is relatively small, 0.1–1 N. (2) The ions of the
 supporting electrolyte react with the ions being tested in
 which case complexes are formed and $E_{1/2}$ depends on the
 concn. of the supporting electrolyte (cf. 34, 5783).
 (3) The reduction of the ion being detd. is a secondary
 reaction while the reduction of H is primary. Of such
 reactions, the $E_{1/2}$ of As^{+++} was studied. Here, depend-
 ing on the acid concn., $E_{1/2}$ varied from -0.4 to -0.96 v.
 The relation between the height of wave (h) and c was
 studied at concns. of 5×10^{-4} – 5×10^{-5} N. At such c and
 supporting electrolyte concns. of not over 1 N, the rela-
 tion between h and c was a straight line. Given the same
 medium h differed for various ions. M. Hosh

State Acad. Labor Res. Inst. applied Chemistry.

TRANSMISSION REPORT

ACCESSION NR: AT4019288

S/0000/63/003/001/0074/0081

AUTHOR: Podushko, Ye. V.; Kozlova, A. B.

TITLE: Mechanism of the catalyzed crystallization of glass of the lithium oxide-aluminum oxide-silicon dioxide system with titanium dioxide

SOURCE: Simpozium po stekloobraznomu sostoyaniyu. Leningrad, 1962. Stekloobraznoye sostoyaniye, vy*p. 1: Katalizirovannaya kristallizatsiya stekla (Vitreous state, no. 1: Catalyzing crystallization of glass). Trudy* simpoziuma, v. 3, no. 1. Moscow, Izd-vo AN SSSR, 1963, 74-81

TOPIC TAGS: glass, glass crystallization, catalyzed crystallization, titanium dioxide, lithium glass

ABSTRACT: Glass of the system $\text{Li}_2\text{O}-\text{Al}_2\text{O}_3-\text{SiO}_2$ containing titanium dioxide as a catalyst (2.0-11.0% by weight) and with a composition close to that of spodumene was investigated, and the two main stages in catalyzed crystallization were studied. In the first stage, the action of the catalyst appears and the conditions for the subsequent nucleation are created, while the second stage, nucleation and crystal growth proceed. Defects due to the catalyst are described. The effect of the amount of catalyst at different quenching temperatures

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ACCESSION NR: AT4019288

was studied in serial experiments, and the characteristics of glass after quenching are tabulated. The relationship between the rate of nucleation and temperature for glass with different TiO_2 contents is illustrated. Finally, experimental data are given on the variations in density and refractive index before and after crystallization for initial glass and for glass treated for 292 hours at 600 or 635 C, and the relationship between glass properties and precrystallization thermal treatment is discussed in detail. Orig. art. has: 6 figures and 2 tables.

ASSOCIATION: none

SUBMITTED: 17May63

DATE ACQ: 21Nov63

ENCL: 00

SUB CODE: MT

NO REF SOV: 007

OTHER: 000

Card 2/2

S/075/60/015/004/015/030/XX
B020/B064

AUTHORS: Chernikhov, Yu. A., Luk'yanov, V. F., and Kozlova, A. B.

TITLE: Analytical Chemistry of Thorium. Information 2. Complexometric Determination of Thorium in Monazite Concentrates After Its Separation on the Cationite KY-2 (KU-2)

PERIODICAL: Zhurnal analiticheskoy khimii, 1960, Vol. 15, No. 4, pp. 452 - 454

TEXT: The authors aim at simplifying and shortening the determination of thorium in monazite concentrates. The present paper describes the sorption of thorium from hydrochloric solutions on the cationite KU-2 (Ref. 15) with subsequent thorium titration by means of complexon^{III} at pH 2.4 - 2.6 and xylenol orange as an indicator (Ref. 16). Thorium is quantitatively sorbed on the cationite KU-2 from a 35% hydrochloric acid solution (Table 1). High acidity increases the selectivity of the method. The elution curve (Fig. 1) indicates that for a complete desorption of 40 mg of Th, 24 ml of the eluant (20% ammonium carbonate solution) suffice, which is added in quantities of 2 - 3 ml. Together with Th, zirconium and
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Analytical Chemistry of Thorium. Informa- S/075/60/015/004/015/030/XX
tion 2. Complexometric Determination of B020/B064
Thorium in Monazite Concentrates After Its Separation on the Cationite
KY-2 (KU12)

small amounts of rare earths are sorbed on the resin. The rare earths do not affect the complexometric determination of Th. Sorption of Zr on the resin can be avoided if it is bound by tartaric or trioxylglutaric acid (Table 2). With trioxylglutaric acid it is possible to mask approximately 10 mg of Zr, and with tartaric acid, approximately 5 mg of Zr when determining 30 mg of Th. Monazite was decomposed by fusion with sodium peroxide (Ref. 18). In the extraction with water, a large part of phosphorus dissolves as sodium phosphate, while in dissolving the precipitate in hydrochloric acid, the residual phosphoric acid precipitates zirconium down to 0.3 - 1.0 mg compared to its content before sorption. This amount is masked by tartaric or trioxylglutaric acid, and does not affect the determination of thorium. If Na_2O_2 is used instead of acid decomposition, the time of decomposition is reduced from 6 - 8 hours to 1 - 2 hours, and the disturbing phosphate and zirconium ions may be easily removed. The results obtained from analyzing some samples of monazite concentrate are listed in Table 3. They are in good

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Analytical Chemistry of Thorium. Informa- S/075/60/015/004/015/030/XX
tion 2. Complexometric Determination of B020/B064
Thorium in Monazite Concentrates After Its Separation on the Cationite
KY-2 (KU-2)

agreement with gravimetric analyses. There are 1 figure, 3 tables, and
18 references: 3 Soviet, 3 German, 7 US, 2 British, 1 Dutch, 1 Japanese, ✓
and 1 Czech. —

SUBMITTED: July 14, 1959

Card 3/3

LUK'YANOV, V.F.; KOZLOVA, A.B.

Analytical chemistry of thorium. Report No.4: Complexometric determination of thorium in monazite concentrates after its separation by 2-indenylphosphonic acid. Zhur. anal. khim. 20 no.10:1077-1099 '65. (MIRA 18:11)

~~KOZLOVA, A.T.~~, Kandidat sel'skokhozyaystvennykh nauk.

Experiment in transforming spring wheat into winter wheat. Agrobiologiya
no.3:65-68 My-Je '56. (MIRA 9:9)

1. Kuybyshevskiy sel'skokhozyaystvennyy institut, Kafedra selektsii i
semenovodstva.
(Botany--Variation) (Wheat)

KOZ LOVA, A. E.

[illegible]

KOZLOVA A.F.

USSR/General Biology - Genetics.

B-5

Abs Jour : Ref Zhur - Biol., No 8, 1958, 33426

Author : Kozlova, A.F.

Inst : -

Title : Conversion of Summer Into Winter Wheat.
(Peredelka yarovoy pshenitsy v ozimuyu).

Orig Pub : Izv. Kuybyshevsk. s.-kh. in-ta, 1957, 12, 55-58

Abstract : In order to change summer into winter wheat a prewinter sowing of 8 varieties of summer wheat was conducted. According to the author's data, the Lyutetsens 801 summer wheat, pre-winter sowed for 3 years, was converted into winter wheat. The remaining varieties could not be converted.

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